CLAIMS

1.   A system for generating at a client location, an image representative of a view of an object, comprising:

      A.   an image capture system for generating a plurality of image data sets associated with an object at an image capture location, each of said image data sets being representative of an image of said object as viewed from an associated image capture viewing angle;

      B.   an image processor for transforming said image data sets to a matrix data set, said matrix data set being representative of said plurality of image data sets;

      C.   a client processor;

      D.   means for transmitting said matrix data set to said client processor, wherein said client processor is responsive to a user specification of a user-specified viewing angle, for generating client view data from said matrix data set, wherein said client view data is representative of an image of said object viewed from said user-specified viewing angle; and

      E.   a client display at said client location responsive to said client view data to display said object.

2.   A system according to claim 1 wherein said user-specified viewing angle is selected independently of said image capture viewing angles.

3.   A system according to claim 1 wherein said user-specified viewing angle coincides with one of said image capture viewing angles.

4.   A system according to claim 1 wherein each of said image capture viewing angles has coordinates along both a longitudinal axis and a latitudinal axis around said object.

5.   A system according to claim 1 wherein said transmitting means effects data transmission over a communication path.

6.   A system according to claim 5 wherein said communications path is a wired path.

7.   A system according to claim 6 wherein said communications path is one of the group consisting of a LAN, a WAN, the internet and an intranet.

8.   A system according to claim 5 wherein said communications path is a wireless path.

9.   A system according to claim 8 wherein said communications path is one of the group consisting of a LAN, a WAN, the internet, and an intranet.

10.   A system according to claim 1 wherein said transmitting means effects transfer of said matrix data set resident on a storage medium.

11.   A system according to claim 10 wherein said storage medium is from the group consisting of a hard disk, a floppy disk, CD, a memory chip.

12.   A system according to claim 1 wherein said matrix data set further includes multimedia data and/or links to Internet sites associated with said object

13.   A system according to claim 1 further comprising a matrix controller for effecting the generation of multiple matrix data sets for said object, each of said matrix data sets being representative of a plurality of image data sets generated for said object in a different state.

14.   A system according to claim 1 wherein said client processor includes a view generating computer program adapted to control said client processor to generate said client view data from a received matrix data set.

15.   A system according to claim 14 wherein said matrix data set further includes at least a portion of said view generation computer program.

16.   A system according to claim 1 wherein said matrix processor effects a compression of said matrix data set prior to transmission to said client processor.

17. A system according to claim 16 wherein said client processor effects decompression of a received compressed matrix data set.

18. A system according to claim 12 wherein said matrix processor effects a compression of said matrix data set prior to transmission to said client processor.

19. A system according to claim 18 wherein said client processor effects decompression of a received compressed matrix data set.

20. A system according to claim 15 wherein said matrix processor effects a compression of said matrix data set prior to transmission to said client processor.

21. A system according to claim 20 wherein said client processor effects decompression of a received compressed matrix data set.

22. A system according to claim 1 wherein a portion of at least one of said image data sets which is representative of a predetermined surface region of said object is associated with a predetermined action, said association being defined in said image data sets.

23. A system according to claim 22 wherein said client processor is operable in response to a user selection of a portion of said displayed image which corresponds to said predetermined surface area of said object, to effect said predetermined action.

24. A system according to claim 13 wherein a portion of said image data sets representative of predetermined surface region of said object is associated with a predetermined action, said association being defined in said image data sets.

25. A system according to claim 24 wherein said client processor is operable in response to a user selection of a portion of said displayed image which corresponds to said predetermined surface area of said object, to effect said predetermined action.

26.   A system according to claim 25 wherein said predetermined action is to generate said display based on client view data from a different matrix data set.

27.   A system according to claim 1 wherein said matrix data sets further include non-image data.

28.   A system according to claim 27 wherein said non-image data includes data relating to attributes of said object.

29.   A system according to claim 27 wherein said non-image data includes data that points said client processor to a database that includes attribute data of said object.

30.   A system according to claim 20 wherein said client processor includes means for modifying said predetermined action.

31.   A method of determining an optimal focus setting of a camera having a minimum focus setting value f_{min} and a maximum focus setting value f_{max} to an optimum focus setting value comprising:

        A. setting a focus setting of said camera to said minimum focus setting value f_{min};

        B. capturing an image of an object with said camera;

        C. computing the value of the Y-component of the image;

        D. counting the number of pixels along an edge of the Y-component of the image;

        E. storing the edge pixel count associated with the image;

        F. increasing the focus setting by a predetermined amount Δf;

        G. repeating steps B-F until the focus setting equals the maximum focus setting value f_{max};

        H. identifying the image having the greatest edge pixel count; and

        I. identifying the focus setting corresponding to the image identified in step H as the optimal focus setting.

32.   A method for adjusting the gain of each of a plurality of cameras in an array of cameras aimed at a common point in order to balance the intensity of images captured by each of the cameras in the array comprising:

A. capturing an image with each of said plurality of cameras;

B. determining an intensity associated with each image;

C. identifying an image having the highest intensity I_{max} of the plurality of images and an image having the lowest intensity I_{min} of the plurality of images;

D. determining if the difference between I_{max} and I_{min} exceeds an intensity threshold;

E. increasing the gain of the camera that captured the image having the lowest intensity I_{min} by a predetermined amount;

F. repeating steps A-E until, in step D, the difference between I_{max} and I_{min} does not exceed said intensity threshold.

33.   A system for creating a multi-dimensional image comprising:

a plurality of cameras arranged in an array:

a turntable device adapted for receiving an object thereon and including a motor for turning the turntable;

a camera control device for controlling said cameras; and

a motor control device for controlling the operation of the motor;

wherein each of said plurality of cameras captures an image of the object at differing angles of rotation of said turntable to form an X by Y image matrix containing (XY) images, where X represents a number of degrees of rotation of said turntable and Y represents a number of said cameras.